



rPlus Hydro, LLLP
201 S Main St, Suite 2100
Salt Lake City, UT 84111

January 25, 2022

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Preliminary Permit Application for the Oquirrh Pumped Storage Project

Dear Ms. Bose,

Please find attached an application for preliminary permit for the Oquirrh Pumped Storage Project. If you have any questions or need additional information, please contact me at (208) 246-9925 or e-mail at mshapiro@rplushydro.com.

We note that the applicant, Oquirrh Energy Storage, LLC, will concurrently be filing a Declaration of Intention for the same project, requesting a determination from the Commission on whether licensing is required. The Declaration of Intention is not intended to replace or defer this preliminary permit application. Even if the Commission finds that licensing is not required under Section 23(b) of the Federal Power Act, Section 4(e) of the Federal Power Act provides for permissive (voluntary) licensing by virtue of the use of groundwater, which would be the primary source of project fill water and possibly evaporation make-up water. In such a case, and if the project continued down a path of voluntary licensing, a preliminary permit would have the same purpose as it would if the project were required to be licensed.

Sincerely,

A handwritten signature in blue ink that reads "Matt Shapiro".

Matthew Shapiro
Chief Executive Officer
Oquirrh Energy Storage, LLC

Preliminary Permit Application
for the
Oquirrh Pumped Storage Project

Oquirrh Energy Storage, LLC
201 S. Main St., Ste. 2100
Salt Lake City, UT 84111

January 25, 2022

VERIFICATION STATEMENT

This application for a preliminary permit is executed in the

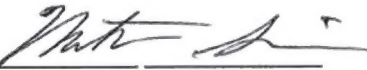
State of Idaho

County of Ada

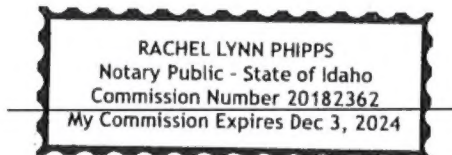
by: Matthew Shapiro
Oquirrh Energy Storage, LLC
201 S. Main St., Ste. 2100
Salt Lake City, UT 84111

being duly sworn, depose(s) and say(s) that the contents of this Preliminary Permit Application are true to the best of (his or her) knowledge or belief. The undersigned Applicant has signed the application this 25th day of January 2022.

Applicant

By: 

Subscribed and sworn to before me, a Notary Public of the State of Idaho, this 25th day of January, 2022.



(Notary Public, or other authorized official)

**PRELIMINARY PERMIT APPLICATION
FOR THE
OQUIRRH PUMPED STORAGE PROJECT**

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§4.81 (a) Initial Statement

(1) Oquirrh Energy Storage, LLC, a Utah limited liability company applies to the Federal Energy Regulatory Commission ("FERC") for a preliminary permit for the proposed Oquirrh Pumped Storage Project ("Project"), as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for this project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

(2) The location of the proposed project is:

State or Territory:	Utah
County:	Salt Lake
Township or nearby town:	Magna, Kearns
Stream or other body of water:	Coon Creek (Closed-Loop)

(3) The exact name, business address, and telephone number of the Applicant is:

Oquirrh Energy Storage, LLC
201 S. Main St., Ste. 2100
Salt Lake City, UT 84111
Phone: (208) 246-9925

The exact name and business address of each person authorized to act as an agent for the Applicant in this application is:

Agent

Matthew Shapiro, CEO
Oquirrh Energy Storage, LLC
201 S. Main St., Ste. 2100
Salt Lake City, UT 84111
Phone: (208) 246-9925
E-mail: mshapiro@rplushydro.com

(4) Oquirrh Energy Storage, LLC is a domestic corporation and is not claiming municipal preference under section 7(a) of the Federal Power Act.

(5) The proposed term of the requested permit is 48 months.

(6) There are no existing dams associated with the proposed project.

§4.32. IDENTIFICATION

(1) For a preliminary permit or license, identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project;

Oquirrh Energy Storage, LLC
201 S. Main St., Ste. 2100
Salt Lake City, UT 84111

(2)(i) Every county in which any part of the project, and any Federal facilities that would be used by the Project, would be located:

The Project would be located in Salt Lake County, Utah:

Salt Lake County
County Clerk
2001 South State St.
Salt Lake City, UT 84114

No Federal facilities will be used by the Project.

(2)(ii) Every city, town, or similar local political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:

The major project facilities (reservoirs and powerhouse) would not be located within the boundaries of any city, town, or similar local subdivision. Most of the transmission line route would also not be located within the boundaries of any city, town, or similar local subdivision.

A very short section of the transmission line would cross through Copperton Metro Township, a short section of the transmission line would be within South Jordan City, and a short section of the transmission line may cross into West Jordan City for purposes of interconnection at the Oquirrh Substation.

(B) Cities, towns, or similar subdivision (5,000 people or more) within a 15-mile radius of the project dam:

City of Bluffdale
2222 West 14400 South
Bluffdale, UT 84065-5248

City of Herriman
5355 West Main St.
Herriman, UT 84096

Kearns Metro Township
4956 West 6200 South, Ste. 527
Kearns, UT 84118

Magna Metro Township
8952 W Magna Main St.
Magna, UT 84044

City of Midvale
7505 Holden St.
Midvale, UT 84047

City of Millcreek
3330 South 1300 East
Millcreek, UT 84106

Murray City
5025 S. State St.
Murray, UT 84107

City of Riverton
12830 S. Redwood Road
Riverton, UT 84065

Salt Lake City
451 S. State St.
Salt Lake City, UT 84114

City of South Jordan
1600 W. Towne Center Dr.
South Jordan, UT 84095

City of South Salt Lake
220 East Morris Ave.
South Salt Lake, UT 84115

Tooele City
90 North Main St.
Tooele, UT 84074

City of West Jordan
8000 South Redwood Road
West Jordan, UT 84088

West Valley City
3600 S. Constitution Boulevard
West Valley City, UT 84119

White City Metro Township
10467 S. Carnation Dr.
White City, UT 84094

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or

(B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project;

There are no known special purpose political subdivisions that own, operate, maintain, or use any project facilities or any Federal facilities that would be used by the project.

(iv) Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application:

Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84116

Utah Division of Water Rights
1594 West North Temple
Ste. 220
Salt Lake City, UT 84114

Utah State History SHPO
300 Rio Grande
Salt Lake City, UT 84101

(v) All Indian tribes that may be affected by the project.

Goshute Business Council
Chairman
P.O. Box 6104
Ibapah, UT 84034

Paiute Indian Tribe of Utah Tribal Council
Chairperson
440 N. Paiute Drive
Cedar City, UT 84720-2613

Skull Valley Band of Goshute Indians
Chairman-Executive Committee
3359 South Main St.
Salt Lake City, UT 84115

Ute Indian Tribe
Chairman
P.O. Box 190
Ft. Duchesne, UT 84026

§ 4.81(b) Exhibits**EXHIBIT 1: DESCRIPTION OF THE PROPOSED PROJECT**

The Project will be a closed-loop pumped storage hydropower facility comprised of two new artificial reservoirs joined by underground conduits, an underground powerhouse, and associated generation, pumping, and transmission equipment. Maximum gross head would be 1,505 feet. Generating and pumping capacity is presently targeted to be 500 megawatts (MW), and annual gross energy production is estimated at 876,000 megawatt-hours (MWh). Details on project features are provided below.

Dams

	Height	Length at Crest	Type
Upper Reservoir Dam Lat. 40.632, Long. -112.150	120 ft	4,400 ft	RCC
Lower Reservoir Dam Lat. 40.650, Long. -112.135	220 ft	850 ft	RCC

Reservoirs

	MSL (ft)	Capacity (AF)	Surface Area (ac)
Upper Reservoir Lat. 40.632, Long. -112.150	7005	3,400	29
Lower Reservoir Lat. 40.650, Long. -112.139	5,230	3,600	55

Primary Conduits

	Length	Diameter	Composition/Lining
Headrace Pipes (3)	3,300 ft	10 ft	FRP or Steel
Headrace Shafts (3)	1,300 ft	10 ft	Concrete- and steel-lined
Tailrace Tunnel	3,150 ft	21.9 ft	Concrete-lined

Powerhouse

The powerhouse would be in a cavern constructed at a tentative elevation of 5350' MSL and tentative coordinates of Lat. 40.641, Long. -112.141. Powerhouse dimensions are tentatively 300 feet in length, 80 feet in width, and 120 feet in height. The powerhouse would be excavated from rock and include steel and concrete formwork. The powerhouse would be accessed via an access tunnel approximately 2,500 feet in length and 30 feet in diameter.

Primary Equipment

Primary equipment would tentatively consist of three reversible pump-turbine and motor-generator units, each with generating and pumping capacity of 166.6 MW, for a total plant capacity of 500 MW.

Transmission Line / Interconnection

A new 345 kV transmission line, approximately 11 miles in length, would be constructed from the project switchyard to the Oquirrh Substation (Rocky Mountain Power). The project transmission line would require a right-of-way tentatively estimated at 150 feet.

Water Sourcing

The estimated initial fill water requirement for the project is 3,600 acre-feet. Filling would occur over a period of six months. Both reservoirs may be lined to minimize seepage, and the project may employ floating evaporation-control disks to cut evaporation loss.

The anticipated source of initial fill water would be groundwater purchased from an existing water rights holder. Subsequent make-up water required due to evaporation and any residual seepage may be sourced from groundwater as well or from natural flow through Coon Canyon Creek, or a combination. Specific point of diversion for initial fill and makeup water, and the length, composition, and routing of a water supply line, will be identified during the study period.

Operation and Benefits

The project would be operated to provide firm generating capacity to the regional power grid and to support the integration of existing and future renewable resources. The major load serving entity in the area—Rocky Mountain Power (PacifiCorp)—is in the process of retiring its coal-fired and other fossil-based generation and replacing it with substantial amounts of solar and wind energy capacity. These non-carbon energy resources are variable and intermittent in nature. The project would provide flexible and rapid-response generation and load resource that makes efficient and effective storage of energy generating by those variable and intermittent renewable resources while providing dispatchable capacity and a full range of ancillary (grid support) services. The location of the project within the core load area of Rocky Mountain Power's system is advantageous in terms of increased reliability and deliverability of power.

Federal Lands

The project would not occupy any federal lands.

§4.81 (c) EXHIBIT 2: DESCRIPTION OF STUDIES**(1) General****(i) Study Plan**

The applicant plans to engage in the following studies to design the technical aspects of the project and to confirm its economic viability:

- Project land surveys
- Environmental impact studies
- Cultural resource studies
- Groundwater studies
- Energy production studies
- Groundwater modeling studies
- Water quality studies
- Water rights studies
- Engineering studies
- Study on the energy market
- Transmission interconnection studies
- Determination of equipment configuration and sizing
- Cost estimates

Additional studies may be undertaken as the need is identified.

(ii) New Roads

No new roads will be needed for the purpose of conducting the studies described in this exhibit.

(2) Work Plan for New Dam Construction**(i) Description of field studies, tests, and other land disturbing activities**

A subsurface investigation will be required to determine the rock structure and stability for the proposed upper reservoir, lower reservoir, powerhouse location, and conduit alignments. Samples shall be checked for rock structure as well as determine the suitability for project features for the reservoirs, powerhouse cavern, and tunnels. The Applicant will use existing roads located within the project boundary to minimize or eliminate the potential for any land disturbing activities. Publicly available geological data will be utilized to the greatest extent possible. Appropriate measures will be taken to restore areas that could potentially be altered or disturbed because of these activities. Appropriate measures are expected to include a plan to implement erosion control, backfilling of core borings, auger borings, and test pits, refurbishing of any disturbed vegetation and appropriate disposal of any drill materials.

(ii) Studies Schedule

Work Item	Schedule	
	Month Beginning	Month Ending
Engineering		
Conceptual refinement and evaluation of alternatives	0	48
Initial scoping and consultation	0	8
Geological reconnaissance	2	6
Environmental		
Agency consultation	0	48
Cultural resource review	0	12
Environmental resource review	0	12
Prepare Pre-Application Document	8	14
Prepare draft application	24	36
Other		
Land & ROW	0	48
Water rights & sourcing studies	0	48
Transmission interconnection planning	6	36
Cost estimating, economic feasibility, and financial planning investigations	6	48
Power sales marketing	12	48
Additional stage consultation and documentation	20	48

This schedule may be adjusted and supplemented depending on need and contingencies that may develop as studies proceed.

(3) Request for Waiver

It is anticipated that preliminary field studies, tests, and other activities to be conducted under the permit will not adversely affect cultural resources or endangered species and will cause only minor alterations or disturbances of lands and waters. Any land altered or disturbed would be adequately restored. Oquirrh Energy Storage, LLC does not propose or plan to undertake any geotechnical study that entails significant disturbance of land or habitat during the preliminary permit. The applicant therefore requests waiver of the full requirements of 18 CFR § 4.81 (c)(2).

(4) Statement of Costs and Financingi. Estimated Cost of Studies

The estimated cost of carrying out and preparing the studies, investigations, tests, surveys, maps, plans, and specifications described in this application is estimated to be between \$1.0 and \$1.5 million.

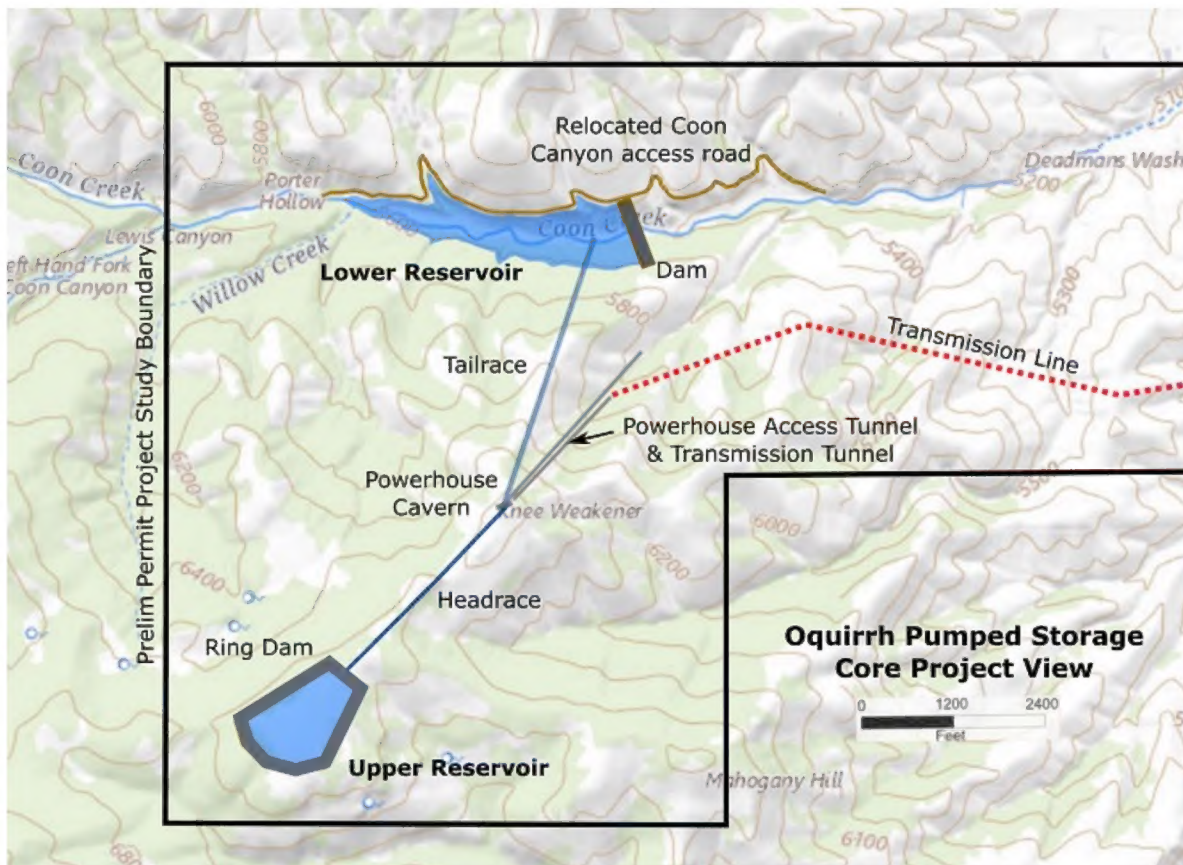
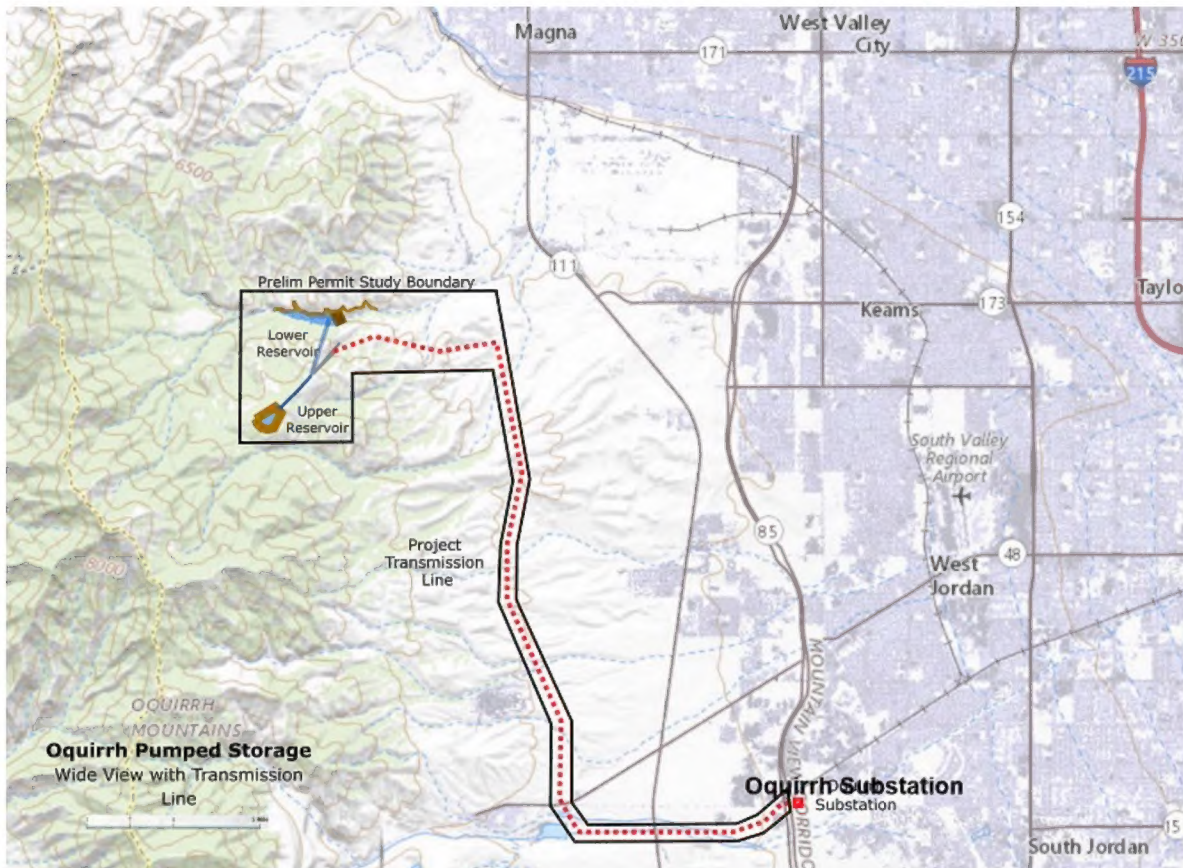
ii. Expected Sources of Financing

The expected sources of financing to conduct the studies described in this application are private investors.

§4.81(d) EXHIBIT 3: PROJECT MAPS

Notes:

1. No areas within the study boundary are designated as wilderness area or wilderness study area or are recommended for designation as wilderness areas.
2. No areas within the study boundary are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System



Document Content(s)

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